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09/497,914	02/04/2000	Marcus J. Andrews	MSI-470US	8059

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EXAMINER
LEWIS, DAVID LEE

ART UNIT	PAPER NUMBER
2673	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

Office Action Summary

Application No.	Applicant(s)
09/497,914	Andrews et al.
Examiner	Art Unit
David L Lewis	2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ___3___ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _Feb 4, 2000_

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-53_ is/are pending in the applica

    4a) Of the above, claim(s) _____ is/are withdrawn from considera

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-53_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirem

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

    a)☐ All b) ☐ Some* c) ☐None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    *See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _4 and 6_

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

19) ☐ Notice of Informal Patent Application (PTO-152)

20) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   **Claims 3, 14, 23, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tannenbaum et al. (5442376), Greanias et al. (5157384) incorporated by reference.**

3.   **As in claim 3, Tannenbaum et al. teaches** of a computer peripheral comprising: a plurality of human-actuated controls, **figure 6 items 130-138 (Greanias)**; non-volatile memory containing control mappings corresponding to a plurality of application program genres, **figure 2 item 26, column 5 lines 55-65, and figure 6 items 207 (all in Greanias)**, the control mappings indicating actions to be performed in application programs of particular genres in response to respective ones of the human-actuated controls, **column 6 lines 7-50, column 7 lines 1-17**. Wherein a plurality of customizable user profiles are equivalent to said mappings for a plurality

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of application programs, wherein a plurality of profiles are arranged for all or a particular application, said user profile comprising control mappings, said particular application representing a specific type of application or as broadly interpreted a genre, **column 9 lines 40-45, column 10 lines 5-23 (Greanias)**. An application program genre is defined by the applicant as a collection of games (applications) having similarities in operation and input device usage. Equivalently the user profile 107 contains commands which are common to several of the application programs, and the system may comprise a plurality of user profiles wherein a sperate user profile exists for each user. Therefore sets of mappings for each genre (user profile) obviously exist. Wherein while Tannenbaum is silent as to the specific language comprising a plurality of applications genres they obviously implicitly teach of said genres as viewed from a broad interpretation.

4.   **As in claim 14, Tannenbaum et al. teaches** of a method comprising: defining a plurality of application program genres, **column 6 lines 25-32, wherein** as broadly interpreted each program of a specific type represents a genre containing only that one program; running an application program that has been classified as a particular application program genre, wherein the application program is responsive to a plurality of human-actuated controls on a control device, **column 9 lines 42-54 (Greanias)** wherein the genre comprised of one program also runs an application profile in addition to the user profile, said application and

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user profile's are responsive to input commands, **column 6 lines 4-45**; querying the control device to obtain a genre descriptor, the genre descriptor indicating actions to be performed by an application program of said particular application program genre in response to respective ones of the human actuated controls, **column 6 lines 4-45, (Tannenbaum), column 9 lines 46-54 (Greanias)**, wherein optical information such as an alphanumeric explanation of the input event and corresponding commands is also included in the profiles for presentation in a control panel, wherein input messages which would normally go directly to the active application are intercepted and handed to a provider for recognition and mapping translation, and then give to the application, **figures 4 and 5 (Greanias)**. Therefore sets of mappings for each genre (user profile) obviously exist. Wherein while Tannenbaum is silent as to the specific language comprising a plurality of applications genres they obviously implicitly teach of said genres as viewed from a broad interpretation.

5.   **As in claim 23, Tannenbaum et al. teaches** of a computer-readable storage medium containing system service utilized by an application program to interact with a control device having a plurality of human-actuated controls, **figure 6 items 130-138 (Greanias)**, wherein the system services perform acts comprising: receiving a request from an application program

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for a genre description corresponding to one of a plurality of application program genres, **figure 8 item 271, 285 (Greanias)**; querying the control device to obtain a genre descriptor, the genre descriptor indicating actions to be performed by an application program of said one of a plurality of application program genres in response to respective ones of the human-actuated controls, **figure 8 item 268 (Greanias)**; returning the obtained genre descriptor to the requesting application program, **figure 8 item 285 (Greanias)**. Therefore sets of mappings for each genre (user profile) obviously exist for the same reasons of obviousness as applied above. Wherein while Tannenbaum is silent as to the specific language comprising a plurality of applications genres they obviously implicitly teach of said genres as viewed from a broad interpretation.

6.   **As in claim 36, Tannenbaum et al.** (Greanias et al. incorporated by reference) teaches of a method of using an input device connected to a computing device with software executable on said computing device, said method comprising the acts of: running an application progam which is responsive to input, **column 1 lines 35-40**; querying a control device having a plurality of human-actuated controls, said control device storing a descriptor indicating actions to be performed by application programs in said particular application program in response to said human-actuated controls, **column 6 lines 27-33**, wherein said query is is

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performed in part by intercepting control device signals sent to the application; obtaining, in response to said querying act, said descriptor, **figure 7 items 227 and 229 (Greanias)**; and generating input to said application program in accordance with said descriptor, **figure 7 item 231 (Greanias) . However Tannenbaum et al. does not explicitly teach of said application program being classified as a particular one of a plurality of application program genres. While Tannenbaum et al. does not explicitly teach of said application program genres**, he implicitly teaches of application programs being classified into genres as would be obvious to the skill artisan, given the fact that the interface module is comprised of "sets" of application profiles and the user profiles, **column 7 lines 65-68**. The **term "sets"** denotes a classification based on a set comprised of a plurality of profiles containg input device mappings. Further, the user profile contains commnads which are common to several of the application programs, **column 10 lines 5-10**. Given the Applicant's definition of an application program genre: *" a collection of games having similaritties in operation and input device usage"*, the user profile can broadly be interpreted as an application program genre because it represents input device mappings having similarities or common commands to several of the application programs, said user profile being grouped in sets as mentioned above. Further the system may also comprise a plurality of user profiles wherein a

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seperate user profile exists for each user. Therefore sets of mappings for each genre (user profile) exist, and given the additional fact that Greanias teaches of a multiple application system with multiple input devices, it would have been obvious to the skilled artisan that the "sets" as taught by Greanias would correspond to application program genres because "sets" denotes a claissification and it would support system organization to group application programs by their similar input device usage in correpsondance with the function of the user profiles operating on the system, **as found in claim 36.**

7.   **Claims 4-13, 15-22, 24-31, 37-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tannenbaum et al. (5442376), Greanias et al. (5157384) incorporated by reference, in view of Kou (6085265).**

8.   **As in claim 45, Tannenbaum et al. (Greanias incorporated by reference)** teaches of a method of enabling the use of an application program that executes on a computing device with a control device haivng human actuated controls, said method comprising the acts of: defining a purality of application program genres, **column 10 lines 45-65 (Greanias)**; creating a genre descriptor, said genre descriptor indicating, for each one of said plurality of application program genres, actions to be performed by application programs in the

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respective application program genres in response to said human actuated controls, **column 10 lines 45-65 (Greanias); Wherein the same reasons of obviousness as applied to claim 36 are applicable here. However Tannenbaum does not teach of storing said genre descriptor in a memory of said control device**, said memory being communicatively coupleable to said computing device whereby said genre descriptor is accessible to said computing device. **Kou teaches** of storing input device descriptor information sent from a system computer to the input device, which supports bidirectional USB communication, by way of an "output report" to support its output features, **column 5 lines 5-20, lines 60-65**. As show in **figure 6 item 203, Greanias** teaches of an Alternative Input Subsystem, for the purpose of allowing many types of devices to be coupled as peripherals. As well known and suggested by **Kou,** a main objective of the USB architecture is to allow many types of devices to be coupled as peripherals, **column 2 lines 45-50. Therefore it would have been obvious to the skilled artisan to** modify the user interface system as taught by **Greanias** by replacing the Alternative Input Subsystem with a USB subsystem because USB is a well known alternative that achieves the same objective in connectivity. Further, **Kou teaches** a USB input device of an HID class which functions by enablement of bidirectional communication with the personal computer host, **column 5 lines 60-65**, which obviously

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stores "output reports" to support its device features, said "output reports" being comprised of HID descriptors. **Wherein it would have also been obvious** to the skilled artisan to utlize a bidirectional communicating input device as a well known alternative in the art of input devices, within the system as described by Tannanbaum, **as found in claim 45.**

9.   **As in claims 4-6, Greanias teaches** of the invention as applied above to claim 3, **however Greanias is silent as to** said computer peripheral device being a USB device. **Greanias teaches of an alternative input system,** figure 6 item 203, which could obiously inlcude any well known input subsystem such as that provided for by the USB architecture, wherein multiple peripheral devices my be attached as input devices given the USB architecture is an agreed upon industry standard. **Kou teaches of** a system for handling the attachment of USB devices that could obviously be incorporated into the device as taught by Greanias, because Greanias suggests any alternative input subsystem that provides an interface description which allows the designers of new user friendly input devices to seamlessly interconnect with the advance user interface, as would be provided for by the USB architecture, and Kou's main objective for the USB architecture is to allow many types of devices to be coupled as peripherals, column 2 lines 45-50. **Kou teaches** wherein the computer peripheral is a USB device and contains device class descriptions of the human actuated controls in a format

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specified by the USB device class definition for human interface devices (HIDs), column 7 lines 10-41,wherein the control mappings containing references to HID identifiers for the respective human-actuated controls, would be implemented as a result of modifying the system of Greanias to the USB architecture, wherein the output reports will define the format of the data transmitted from the host computer to the HID, because the host software preferably supports the bi-directional communication according to the Input and Output Reports. The user profile 107 as taught by Greanais containing the commands which are common to serveral of the application programs would obviously be communicated according to the Input and Output Reports,**wherein said claims langauge would have been obvious over Tannenbaum/Greanias being implemented in the USB architecture as suggested by Kou, column 2 lines 57-67. Further as in claims 7, 8, 15, 17, 24, 26, 37, 39, 46, and 48,** Kou teaches of said bi-direction communication from host to USB device, which transmitts Input and Output reports according to the HID/USB standard, column 5 lines 10-35, are transfered wthin data packets, column 12 lines 3-26, wherein as Greanias is implemented in the USB architecture with an HID as suggested by Kou, said control section indicating string indexes for the respective controls, and a genere section indicating the control mappings for the respective application program genres, is the obvious result. **As in claims 10, 11, 19, 20, 28, 29, 41, 42, 50, and 51,** Greanias (figure 5), and Tannenbaum et al. (figures 6 and 7), teaches of said string indexes for the respective controls as well as said graphic overlays that identify the human actuated controls on the computer peripheral, Greanias (figure 5), and Tannenbaum et al. (figures 6 and 7), wherein

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said coordinate information is inherent to the input device control data necessarily including grahical input control data, in the device of Tannenbaum et al. implemented in the USB architecture as suggested by Kou. **As in claims 9, 12, 18, 21, 27, 30, 40, 43, 49, and 52**, Kou teaches of said bi-directiori communication from host to USB device, which transmitts Input and Output reports according to the HID/USB standard, column 5 lines 10-35, are transfered wthin data packets, column 12 lines 3-26, wherein packets as shown in fiugre 8 comprise a number of information subunits in addition to said header, further **wherein Kou teaches of packet communication** to request from the operating system inquiring as to the number of USB devices which are coupled to a port, column 10 lines 11-23, returing the number of devices, wherein said header section, control section, genre secton and diagram section, are results of Tannenbaum et al. implemented in the architecture of USB as suggested by Kou. **As in claims 13, 22, 31, 44, and 53**, Tannenbaum in view of Kou and USB architecture, as suggested by Kou teaches of the memory further containing one or more graphics images that identify the locations of the controls on the computer peripheral, column 7 lines 45-56, wherein serial data packets are written into memory. **As in claim 16, 25, 38, and 47**, Tannenbaum in view of Kou and USB architecture, as suggested by Kou teaches of retrieving descriptors, column 2 lines 45-57, column 7 lines 20-55, column 8 lines 11-30.

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10.   Claims 1, 2, and 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kou

(6085265) in view of Tannenbaum et al. (5442376), Greanias et al. (5157384) incorporated by

reference.

11.   **As in claim 1, Kou.** teaches of a game control device that conforms to Universal Serial Bus

(USB) device class definitions for Human Interface Devices (HIDs), **column 1 lines 22-26,**

column 2 lines 1-15, comprising: a plurality of human-actuated controls, **column 2 lines 45-**

50; one or more HID descriptors that describe aspects of the human-actuated controls, the

HID descriptors associating HID string indexes with the respective human-actuated controls,

column 7 lines 22-40; However Kou does not teach of control mappings corresponding

to a plurality of application program genres, the control mappings indicating actions to be

performed in application programs of particular genres in response to respective ones of the

human-actuated controls, wherein the control mappings identify controls by their HID string

indexes. **Tannenbaum et al. teaches** of said control mappings corresponding to plurality of

application program genres for the same reasons of obviousness as applied above to claim 45.

Wherein it would have been obvious for the skilled artisan to combine the inventions as taught by

Kou and Tannenbaum because Tannenbaum teaches of a system comprising a plurality of human-

actuated controls suitable for USB connectivity, and Kou teaches of an input device suitable for the

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device as taught by Tannenbaum. **Therefore as mentioned above**, sets of mappings for each genre (user profile) exist, and given the additional fact that Greanias teaches of a multiple application system with multiple input devices, it would have been obvious to the skilled artisan that the "sets" as taught by Greanias would correspond to application program genres because "sets" denotes a claissification and it would support system organization to group application programs by their similar input device usage in correpsondance with the function of the user profiles operating on the system. **As in claim 2, Tannenbaum** teaches of the control mappings being indicated in data sets comprising: a control section indicating the HID string indexes for the respective controls, figure 6; a genre section indicating actions to be performed in application programs of particular genres in response to respective ones of the human actuated controls, fig. 7.

12.   **As in claim 32, Kou teaches** of a data transmission medium carrying a data structure comprising: a information section indicating the number of human-actuated controls on a computer peripheral, column 10 lines 11-24; a control section indicating HID string indexes for the respective controls on the computer peripheral, column 8 lines 1-26. **However Kou is silent as to** said header section indicating the number of application program genres for which control mappings exist in the data structure, or a genre section indicating control mappings for the respective application program genres. **Tannenbaum et al. teaches of a**

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method and system to recognize input events from a plurality of input devices, wherein they teach of

genre mappings to a plurality of applications by way of its interface and user profiles, column 6 lines

18-36. Tannenbaum et al. also teaches of utilizing an alternative input subsystem, figure 6 item 203

(Greanias). An alternative input subsystem well known in the art operates based on the USB

architecture, as suggested by Kou. Both systems of Kou and Tannenbaum teach of a system and

method for establishing communication between a host computer and a peripheral device. Kou's

system operates by transmitting formatted data packets, such as HID report descriptors to the host

computer via a USB architecture. Integrating the application program genres as taught by

Tannenbaum into the USB architecture as taught by Kou would have been obvious to the skilled

artisan given Tannenbaum suggests the need for an alternative input subsystem and Kou provides

such a subsystem. Wherein Kou teaches of said bi-direction communication from host to USB

device, which transmitts Input and Output reports according to the HID/USB standard, column 5

lines 10-35, are transfered wthin data packets, column 12 lines 3-26, wherein packets as shown in

fiugre 8 comprise a number of information subunits in addition to said header, further wherein Kou

teaches of packet communication to request from the operating system inquiring as to the number of

USB devices which are coupled to a port, column 10 lines 11-23, returing the number of devices,

wherein said header section, control section, genre secton and diagram section, are results of

Tannenbaum et al. implemented in the architecture of USB as suggested by Kou. Further wherein

said header section indicating the number of application program genres for which control

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mappings exist in the data structure, or a genre section indicating control mappings for the respective application program genres are the result of Tannenbaum et al. implemented in the architecture of USB as suggested by Kou. **As in claim 33-35**, Kou teaches of said diagram and control sections, column 7 lines 21-56, wherein said diagram section is equivalent to a device or physical descriptor, well known to allow a device to identify how the user physically interacts with the device, and said control sections include inputs to the applications programs in response to user input controlling graphical display information as well known in USB HID usage.

Conclusion

13.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. 6311228, 5317695, 6073205, 6195712, 5935224, 5807175, 6223289.

14.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to **David L. Lewis** whose telephone number is **(703) 306-3026**. The examiner can normally be reached on MT and THF from 8 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached on (703) 305-4938. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Examiner: David L. Lewis   March 20, 2002

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Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington,

VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should

be directed to the Technology Center 2600 Customer Service Office whose telephone number is

(703) 306-0377.

BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Examiner: David L. Lewis

March 20, 2002